



Attorney Docket No. 0756-7283

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	)	Group Art Unit: 2814
Koichiro TANAKA et al.	)	Examiner: Alonzo Chambliss
Serial No. 10/815,813	)	<u>CERTIFICATE OF MAILING</u>
Filed: April 2, 2004	)	I hereby certify that this correspondence is
For: METHOD OF FABRICATING	)	being deposited with the United States Postal
SEMICONDUCTOR DEVICE	)	Service with sufficient postage as First Class
UTILIZING LASER IRRADIATION	)	Mail in an envelope addressed to: Mail Stop
	)	AF, Commissioner for Patents, P.O. Box
	)	1450, Alexandria, VA 22313-1450, on <u>April 2,</u>
	)	<u>2007.</u>

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Mail Stop AF  
Honorable Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The present *Request* is filed pursuant to the provisions of the Pre-Appeal Brief Conference Pilot Program (1296 Off. Gaz. Pat. Office 67 (July 12, 2005); extended January 10, 2006).

The Official Action mailed November 2, 2006, and the Advisory Action mailed March 15, 2007, have been received and their contents carefully noted. Filed concurrently herewith is a *Request for Two Month Extension of Time*, which extends the shortened statutory period for response to April 2, 2007. Also, filed concurrently herewith is a *Notice of Appeal*. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a *Notice of Appeal*. The review is requested for the following reasons.

The Advisory Action maintains the rejection of claims 1-4 and 29-32 as anticipated by U.S. Patent No. 6,700,096 to Yamazaki. In addition to relying on

Yamazaki, the Advisory Action newly cites U.S. Patent No. 6,359,254 to Brown and U.S. Patent No. 6,119,335 to Park. Specifically, the Advisory Action asserts the following:

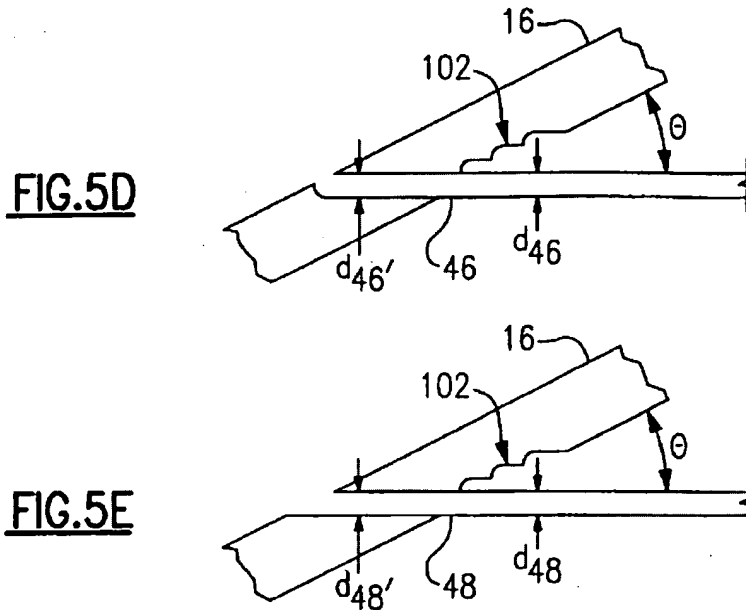
it is notorious well known depending about the desired result in the art that ND YAG laser has a variety of different pulse width as evident by Brown (US 6,359,254) and Park et al. (US 6,119,335). These references demonstrate the inherency of a desired feature of ND laser having a varying pulse width. It should be noted however, that these references are not being used as a new ground of rejection or new art but merely to indicate to the applicant a noting of ND YAG laser with varying pulse width.

The Applicant respectfully disagrees and traverses the assertions in the Official Action.

The Applicant respectfully submits that Yamazaki does not teach that a pulse width of a first pulse laser beam and a pulse width of a second pulse laser beam are different from each other, either explicitly or inherently. Specifically, the Advisory Action still has not shown how or why Yamazaki should be modified so as to be contrary to its plain teaching that "all of the laser oscillation apparatuses use the same laser" (column 4, lines 59-65; emphasis added). Also, the Advisory Action still has not shown that Yamazaki explicitly or inherently teaches that a first pulse laser beam should be a YAG laser and that a second pulse laser beam should be a YVO<sub>4</sub> laser, as asserted in the Official Action. Further, the Advisory Action still has not demonstrated that Yamazaki teaches that a pulse width should differ for first and second laser beams.

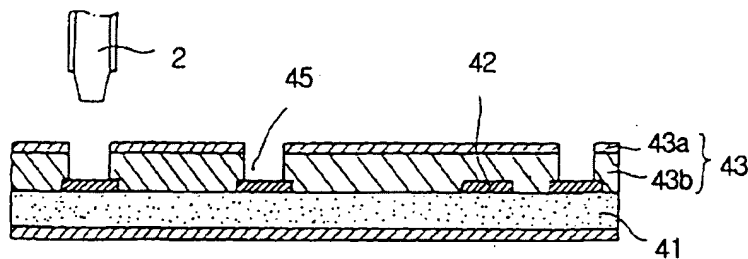
Brown and Park do not cure the numerous deficiencies in Yamazaki. Brown appears to disclose a method for producing a shaped hole in a structure by using pulsed beams including both unmodulated pulsed laser beams having a pulse width of about 0.1 milliseconds to about 10 msec and modulated pulsed laser beams having a pulse width of about 1 nanosecond to about 500 nsec (column 2, lines 3-11); that an unmodulated pulsed laser beam 46 having a pulse width of about 0.5 msec passes through a portion of a diffuser section 102 and penetrates a nickel alloy structure 16 (column 7, lines 6-44, and Figure 5D, reproduced below); and that a modulated pulsed

laser beam 48 having a pulse width of about 100 nsec is focused at the structure 16 (column 7, lines 45-67, and Figure 5E, reproduced below).



Park appears to disclose that a resin insulator 43b is drilled by means of a CO<sub>2</sub> laser 2 having a pulse width of 1-100  $\mu$ sec (column 6, lines 18-32, and Figure 7d, reproduced below).

FIG. 7d



Therefore, it appears that Brown and Park merely teach irradiating one pulsed laser beam having a pulse width within a range to an object.

In contrast, independent claims 1 and 29 recite, among other features, that a first pulse laser beam and a second pulse laser beam are overlapped with each other, that oscillations of the first pulse laser beam and the second pulse laser beam are

synchronized, and that a pulse width of the first pulse laser beam and a pulse width of the second pulse laser beam are different from each other. That is, two pulse laser beams are overlapped and synchronized, and their pulse widths are different from each other. Yamazaki, Brown and Park, either alone or in combination, do not explicitly or inherently teach or suggest the above-referenced features of the present claims.

In addition, independent claim 29 recites a method for manufacturing a semiconductor device comprising crystallization of the amorphous semiconductor by irradiating the amorphous semiconductor film with a laser beam with first and second pulse laser beams. Brown and Park do not describe analogous art and are directed to an entirely different field of endeavor from the present application and Yamazaki. Brown appears to relate to a method for producing a hole in a structure (column 1, lines 6-7), and Park appears to relate to using irradiating beams of a CO<sub>2</sub> laser to remove a residual insulator and form a via hole (abstract). Brown and Park are entirely irrelevant to a method for manufacturing a semiconductor device.

MPEP § 2141.01(a) states the following:

The examiner must determine what is "analogous prior art" for the purpose of analyzing the obviousness of the subject matter at issue. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also In re Deminski, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992).

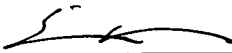
Brown and Park are not in the field of the Applicant's endeavor, are not reasonably pertinent to the particular problem with which the inventor is concerned, and would not have logically commended themselves to an inventor's attention in considering the problem.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102(e) are in order and respectfully requested. Further, since the Official Action has not presented a *prima facie* case of anticipation, the Applicant respectfully requests that the

present application be allowed on the existing claims pursuant to the provisions of the Pre-Appeal Brief Conference Pilot Program (1296 Off. Gaz. Pat. Office 67 (July 12, 2005); extended January 10, 2006).

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

  
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Reg. No. 38,285

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